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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,789	11/14/2003	Alastair James Buchanan	1-24912	8772
46582 7590 06/09/2010 MACMILLAN, SOBANSKI & TODD, LLC ONE MARITIME PLAZA - FIFTH FLOOR 720 WATER STREET TOLEDO, OH 43604				
EXAMINER				
MANCHO, RONNIE M				
ART UNIT		PAPER NUMBER		
3664				
MAIL DATE		DELIVERY MODE		
06/09/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/713,789

Applicant(s)

BUCHANAN ET AL.

Examiner

RONNIE MANCHO

Art Unit

3664

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/CD)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/18/10 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 24-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Sawamoto EP 0890470).

Regarding claim 24, Sawamoto (abstract; col. 7, col. 9, etc) discloses a method of sensing targets from a host vehicle, comprising:

capturing images in the host vehicle and detecting lane boundaries in the captured images (col. 6, lines 10, etc; lines 33, etc);

estimating a projected path for the host vehicle (col. 7, lines 28 to 54);

detecting, on the host vehicle, the position and distance from the host vehicle of a target vehicle located on the road ahead of the host vehicle (figs. 3&4; col. 5, lines 50-54);

determining a target lane (abstract, fig. 3&4) in which the host vehicle will be located when it has travelled along the projected path by the distance from the host vehicle to the target vehicle (col. 7, lines 39, etc; col. 9, lines 48, etc); and

comparing the position of the target vehicle with the position of the target lane to provide a processed estimate of the actual position of the target vehicle (col. 7, lines 38, etc; col. 9, lines 43, etc).

In the prior art (col. 9, lines 46 to col. 10, line 11) the processor 62 clearly predicts the position of the host vehicle in a future path. The processor 62 predicts "the future path of the host vehicle relative to a target vehicle when the host vehicle has traveled a distance between the host vehicle and the target vehicle (see particularly col. 9, line 51 and col. 10, lines 5-11).

Regarding claim 25, Swamoto (abstract; col. 7, col. 9, etc) discloses the method of Claim 1 in which the processed estimate comprises an indicator of whether or not the target vehicle is in the same lane that the host vehicle is projected to be in when the host vehicle has travelled along the projected path by the distance to the target vehicle (col. 2, lines 47-57; col. 9, lines 16-53; col. 10, lines 5-24).

Regarding claim 26, Swamoto (abstract; col. 7, col. 9, etc) discloses the method of Claim 1, in which the step of capturing images comprises capturing a plurality of two-dimensional images of an area of road ahead of the host vehicle using a video camera (col. 2, lines 47-57; col. 9, lines 16-53; col. 10, lines 5-24).

Regarding claim 27, Swamoto (abstract; col. 7, col. 9, etc) discloses the method of Claim 1 in which the step of detecting lane boundaries in the captured images comprises filtering the images to identify artefacts in the images corresponding to at least one of the right hand edge of a road, the left hand edge of the road, lane markings defining lanes in the road, the radius of curvature of the lanes and the road, and the heading angles of the host vehicle relative to the road and lanes (col. 2, lines 47-57; col. 9, lines 16-53; col. 10, lines 5-24).

Regarding claim 28, Swamoto (abstract; col. 7, col. 9, etc) discloses the method of Claim 4 in which the step of detecting lane boundaries comprises applying an edge detection algorithm to the images to detect lines or curves that correspond to lane boundaries (col. 2, lines 47-57; col. 9, lines 16-53; col. 10, lines 5-24).

Regarding claim 29, Swamoto (abstract; col. 7, col. 9, etc) discloses the method of claim 5, in which the step of detecting lane boundaries comprises performing a tracking algorithm which employs a recursive least squares technique to identify the path of lanes in the images (col. 2, lines 47-57; col. 9, lines 16-53; col. 10, lines 5-24).

Regarding claim 30, Swamoto (abstract; col. 7, col. 9, etc) discloses the method of claim 1, in which the step of determining the target lane comprises projecting the path estimated by the vehicle path estimation means by the distance to the target vehicle and comparing the part projected to that distance with lane boundary information at that distance (col. 2, lines 47-57; col. 9, lines 16-53; col. 10, lines 5-24).

Regarding claim 31, Swamoto (abstract; col. 7, col. 9, etc) discloses the method of claim 1, in which the step of estimating the projected path comprises projecting a path based upon the heading of the host vehicle (col. 2, lines 47-57; col. 9, lines 16-53; col. 10, lines 5-24).

Response to Arguments

4. Applicant's arguments filed 5/5/10 have been fully considered but they are not persuasive.

The 112 rejection and objections to the specification have been vacated.

Applicant's arguments concerning the 102 rejections are not persuasive, particularly since applicant has cancelled all old claims and added new ones. The examiner has pointed to the sections of the prior art that read on the claims for applicant's review.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RONNIE MANCHO whose telephone number is (571)272-6984. The examiner can normally be reached on Mon-Thurs: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tran Khoi can be reached on 571-272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ronnie Mancho
Examiner
Art Unit 3664

/Ronnie Mancho/
Examiner, Art Unit 3664